

2SB1539

Silicon PNP epitaxial planer type

For low-frequency amplification

Complementary to 2SD2359

Features

- Low collector to emitter saturation voltage $V_{CE(sat)}$.
- Large collector power dissipation P_C .
- Mini Power type package, allowing downsizing of the equipment and automatic insertion through the tape packing and the magazine packing.

Absolute Maximum Ratings ($T_a=25^\circ\text{C}$)

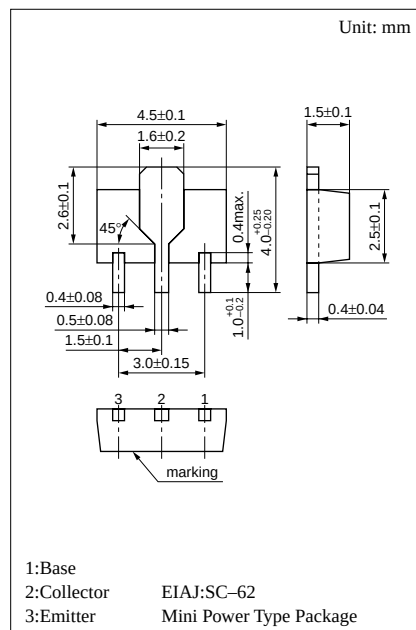
Parameter	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	-20	V
Collector to emitter voltage	V_{CEO}	-20	V
Emitter to base voltage	V_{EBO}	-5	V
Peak collector current	I_{CP}	-1.2	A
Collector current	I_C	-1	A
Collector power dissipation	P_C^*	1	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 ~ +150	$^\circ\text{C}$

* Printed circuit board: Copper foil area of 1cm^2 or more, and the board thickness of 1.7mm for the collector portion

Electrical Characteristics ($T_a=25^\circ\text{C}$)

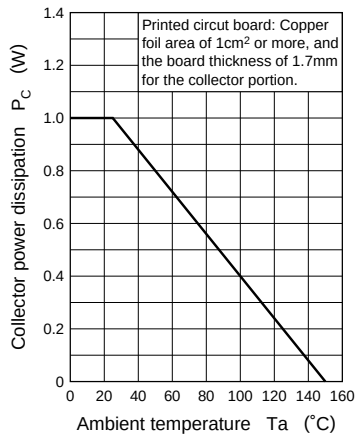
Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = -14\text{V}$, $I_E = 0$			-1	μA
Collector to base voltage	V_{CBO}	$I_C = -10\mu\text{A}$, $I_E = 0$	-20			V
Collector to emitter voltage	V_{CEO}	$I_C = -1\text{mA}$, $I_B = 0$	-20			V
Emitter to base voltage	V_{EBO}	$I_E = -10\mu\text{A}$, $I_C = 0$	-5			V
Forward current transfer ratio	h_{FE}	$V_{CE} = -2\text{V}$, $I_C = -100\text{mA}^{**}$	200		800	
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = -500\text{mA}$, $I_B = -10\text{mA}^{**}$			-0.2	V
Transition frequency	f_T	$V_{CB} = -10\text{V}$, $I_E = 50\text{mA}$, $f = 200\text{MHz}$		120		MHz
Collector output capacitance	C_{ob}	$V_{CB} = -10\text{V}$, $I_E = 0$, $f = 1\text{MHz}$		30		pF

** Pulse measurement

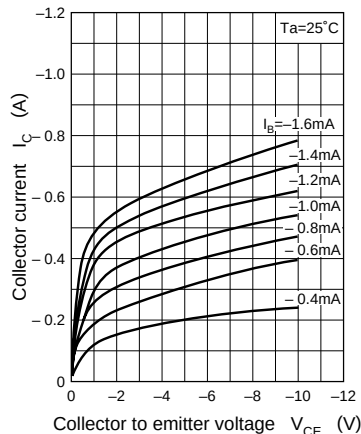


Marking symbol : 1N

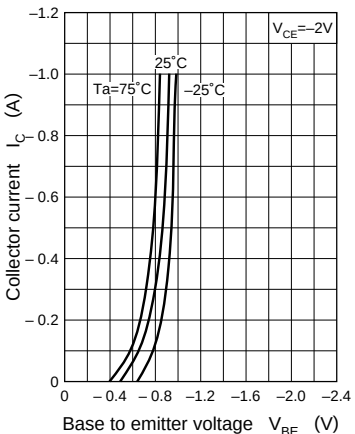
$P_C - T_a$



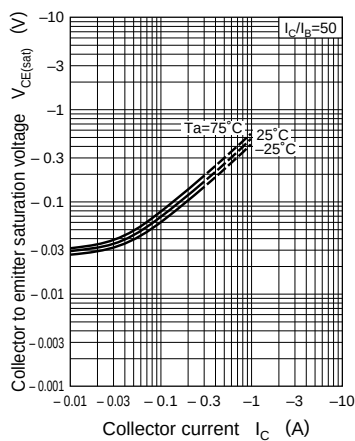
$I_C - V_{CE}$



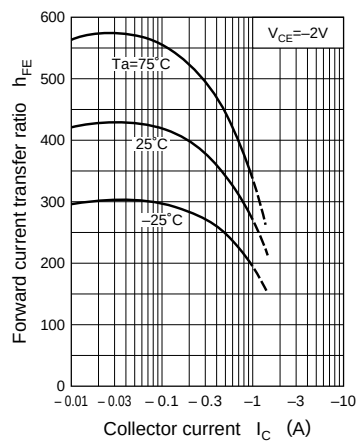
$I_C - V_{BE}$



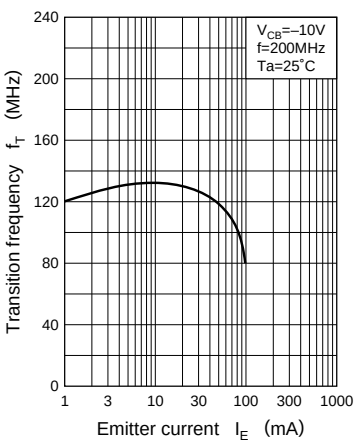
$V_{CE(sat)} - I_C$



$h_{FE} - I_C$



$f_T - I_E$



$C_{ob} - V_{CB}$

